

Notice of Allowability

Application No.

09/982,677

Examiner

Liang-che Alex Wang

Applicant(s)

TENE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/18/2001.
2. ☒ The allowed claim(s) is/are 2-5, 7-10, 12-15, 17-20, 22, 24, 25 and 27-30.
3. ☒ The drawings filed on 18 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☒ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 1/31/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



HOSAIN ALAM
SENIOR PATENT EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Thinh Nguyen on 01/27/2005.
3. The application has been amended as follow:

What is claimed is:

1. (canceled) A browser plug-in comprising:
a Personal Content Tunnel (PCT) object processor to process a PCT object (PCTO) returned by a content server in response to a request from a client, the PCTO containing PCT information;
a PCT resolution module coupled to the PCT object processor to resolve a service uniform resource identifier (URI) using the PCT information according to a PCT resolution protocol, the service URI identifying a PCT resolution server; and
a server interface to receive a content URI and a PCT termination point resolved by the PCT resolution server.
2. (currently amended) The browser plug-in of claim [[1]] 7 wherein the PCT information includes at least one of a carrier type identifier, a PCT routing control parameter, a PCT session time-out parameter, a bandwidth parameter, an authentication parameter, and the service URI.
3. (currently amended) The browser plug-in of claim [[1]] 7 wherein the PCT object processor comprises:

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a PCT object receiver to receive the PCT object via a Hypertext Transfer Protocol (HTTP) link; and

a PCT object interpreter to interpret the received PCT object .

4. (original) The browser plug-in of claim 3 wherein the PCT object interpreter comprises:

a PCT object identifier to identify the PCT object based on a unique encoding type.

5. (original) The browser plug-in of claim 4 wherein the unique encoding type is the Multipurpose Internet Mail Extensions (MIME).

6. (canceled) The browser plug-in of claim 2 further comprising:

a session initiator to initiate a content delivery session between the client and a local node using a carrier tunnel identified by the carrier type identifier, the local node providing access to a content delivered from the content server.

7. A The browser plug-in comprising: of claim 6

a Personal Content Tunnel (PCT) object processor to process a PCT object (PCTO) returned by a content server in response to a request from a client, the PCTO containing PCT information;

a PCT resolution module coupled to the PCT object processor to resolve a service uniform resource identifier (URI) using the PCT information according to a PCT resolution protocol, the service URI identifying a PCT resolution server;

a server interface to receive a content URI and a PCT termination point resolved by the PCT resolution server; and

a session initiator to initiate a content delivery session between the client and a local node using a carrier tunnel identified by a carrier type identifier, the local node providing access to a content delivered from the content server;

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wherein the local node is one of a first local content host and a broadband service node, the first local content host caching the content, the broadband service node connecting to one of a second local content host caching the content and the content server via a content server tunnel.

8. (original) The browser plug-in of claim 7 wherein the carrier tunnel uses a tunneling protocol, the tunneling protocol being one of a point-to-point protocol (PPP)/ layer two tunneling protocol (L2TP) and a PPP/ point-to-point tunneling protocol (PPTP).

9. (currently amended) The browser plug-in of claim ~~[[6]]~~ 7 further comprises:
a routing controller to establish a route for the content delivery session between the client and the subnet containing the Internet Protocol (IP) address of the content server, the subnet being identified by a network mask in the PCT routing control parameter.

10. (original) The browser plug-in of claim 2 further comprises:
an authenticator to authenticate the client using the authentication parameter, the authentication parameter being one of a realm, a domain, a username, and a password.

11. (canceled) A method comprising:
processing a PCT object (PCTO) returned by a content server in response to a request from a client, the PCTO containing PCT information;
resolving a service uniform resource identifier (URI) using the PCT information according to a PCT resolution protocol, the service URI identifying a PCT resolution server; and
receiving a content URI and a PCT termination point resolved by the PCT resolution server.

12. (currently amended) The method of claim ~~[[11]]~~ 17 wherein the PCT information includes at least one of a carrier type identifier, a PCT routing control parameter, a PCT session time-out parameter, a bandwidth parameter, an authentication parameter, and the service URI.

13. (currently amended) The method of claim ~~[[11]]~~ 17 wherein processing the PCT object comprises:

receiving the PCT object via a Hypertext Transfer Protocol (HTTP) link; and
interpreting the received PCT object.

14. (original) The method of claim 13 wherein interpreting the received PCT object comprises:

identifying the PCT object based on a unique encoding type.

15. (original) The method of claim 14 wherein the unique encoding type is the Multipurpose Internet Mail Extensions (MIME).

16. (canceled) The method of claim 12 further comprising:
initiating a content delivery session between the client and a local node using a carrier tunnel identified by the carrier type identifier, the local node providing access to a content delivered from the content server.

17. A The method comprising: of claim 16
processing a PCT object (PCTO) returned by a content server in response to a request from a client, the PCTO containing PCT information;
resolving a service uniform resource identifier (URI) using the PCT information according to a PCT resolution protocol, the service URI identifying a PCT resolution server;
receiving a content URI and a PCT termination point resolved by the PCT resolution server; and
initiating a content delivery session between the client and a local node using a carrier tunnel identified by a carrier type identifier, the local node providing access to a content delivered from the content server;

wherein the local node is one of a first local content host and a broadband service node, the first local content host caching the content, the broadband service node connecting to one of a second local content host caching the content and the content server via a content server tunnel

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18. (original) The method of claim 17 wherein the carrier tunnel uses a tunneling protocol, the tunneling protocol being one of a point-to-point protocol (PPP)/ layer two tunneling protocol (L2TP) and a PPP/ point-to-point tunneling protocol (PPTP).

19. (currently amended) The method of claim ~~[[16]]~~ 17 further comprises:
establishing a route for the content delivery session between the client and the subnet containing the Internet Protocol (IP) address of the content server, the subnet being identified by a network mask in the PCT routing control parameter.

20. (original) The method of claim 12 further comprises:
authenticating the client using the authentication parameter, the authentication parameter being one of a realm, a domain, a username, and a password.

21. (canceled) A computer program product comprising:
a machine useable medium having computer program code embedded therein, the computer program product having:
computer readable program code to process a PCT object (PCTO) returned by a content server in response to a request from a client, the PCTO containing PCT information;
computer readable program code to resolve a service uniform resource identifier (URI) using the PCT information according to a PCT resolution protocol, the service URI identifying a PCT resolution server; and
computer readable program code to receive a content URI and a PCT termination point resolved by the PCT resolution server.

22. (currently amended) The computer program product of claim ~~[[21]]~~ 24 wherein the PCT information includes at least one of a carrier type identifier, a PCT routing control parameter, a PCT session time-out parameter, a bandwidth parameter, an authentication parameter, and the service URI.

23. (canceled) The computer program product of claim 22 further comprising:

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computer readable program code to initiate a content delivery session between the client and a local node using a carrier tunnel identified by the carrier type identifier, the local node providing access to a content delivered from the content server.

24. A The computer program product comprising: of claim 23
a machine useable medium having computer program code embedded therein, the
computer program product having:
computer readable program code to process a PCT object (PCTO) returned by a content
server in response to a request from a client, the PCTO containing PCT information;
computer readable program code to resolve a service uniform resource identifier (URI)
using the PCT information according to a PCT resolution protocol, the service URI identifying a
PCT resolution server;
computer readable program code to receive a content URI and a PCT termination point
resolved by the PCT resolution server; and
computer readable program code to initiate a content delivery session between the client
and a local node using a carrier tunnel identified by a carrier type identifier, the local node
providing access to a content delivered from the content server;

wherein the local node is one of a first local content host and a broadband service node, the first local content host caching the content, the broadband service node connecting to one of a second local content host caching the content and the content server via a content server tunnel

25. (currently amended) The computer program product of claim 24 wherein the carrier tunnel uses a tunneling protocol, the tunneling protocol being one of a point-to-point protocol (PPP)/ layer two tunneling protocol (L2TP) and a PPP/ point-to-point tunneling protocol (PPTP).

26. (canceled) A system comprising:
a content server coupled to a network to provide a content;

a PCT resolution server coupled to the network to that resolves a service uniform resource identifier (URI) using PCT information to a content uniform resource identifier (URI) and a PCT termination point; and

a client coupled to a first broadband service node via a broadband medium, the broadband service node coupling to the network, the client having a browser interfacing to a browser plug-in, the browser plug-in comprising:

a Personal Content Tunnel (PCT) object processor to process a PCT object (PCTO) returned by the content server in response to a client request from the client, the PCTO containing PCT information,

a PCT resolution module coupled to the PCT object processor to resolve a service uniform resource identifier (URI) using the PCT information according to a PCT resolution protocol, the service URI identifying the PCT resolution server, and

a server interface to receive the content URI and the PCT termination point resolved by the PCT resolution server.

27. (original) The system of claim [[26]] 28 wherein the PCT information includes at least one of a carrier type identifier, a PCT routing control parameter, a PCT session time-out parameter, a bandwidth parameter, an authentication parameter, and the service URI.

28. (currently amended) A The system comprising of claim 27 wherein the browser plug-in further comprising:

a content server coupled to a network to provide a content;

a PCT resolution server coupled to the network to that resolves a service uniform resource identifier (URI) using PCT information to a content uniform resource identifier (URI) and a PCT termination point; and

a client coupled to a first broadband service node via a broadband medium, the first broadband service node coupling to the network, the client having a browser interfacing to a browser plug-in, the browser plug-in comprising:

a Personal Content Tunnel (PCT) object processor to process a PCT object (PCTO) returned by the content server in response to a client request from the client, the PCTO containing PCT information,

a PCT resolution module coupled to the PCT object processor to resolve a service uniform resource identifier (URI) using the PCT information according to a PCT resolution protocol, the service URI identifying the PCT resolution server,

a server interface to receive the content URI and the PCT termination point resolved by the PCT resolution server, and

a session initiator to initiate a content delivery session between the client and a local node using a carrier tunnel identified by a carrier type identifier, the local node providing access to the content delivered from the content server.

29. (original) The system of claim 28 wherein the local node is one of a first local content host and a second broadband service node, the first local content host caching the content, the second broadband service node connecting to one of a second local content host caching the content and the content server via a content server tunnel

30. (original) The system of claim 29 wherein the carrier tunnel uses a tunneling protocol, the tunneling protocol being one of a point-to-point protocol (PPP)/ layer two tunneling protocol (L2TP) and a PPP/ point-to-point tunneling protocol (PPTP).

Reason for allowance

4. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach or suggest, individually or in combination of a system comprises a PCT object processor to process a PCT object returned by the content server in response to a client request from the client, and a PCT resolution module coupled to the PCT object processor to resolve a service URI using the PCT information contained in PCT object according to a PCT resolution protocol, the service URI identifying the PCT resolution

server and a server interface to receive the content URI and the PCT termination point resolved by the PCT resolution server and a session initiator to initiate a content delivery session between the client and a local node using a carrier tunnel identified by a carrier type identifier, then the local node provides access to the content delivered from the content server in lights with other limitations described in independent claims 7, 17, 24, and 28.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liang-che Alex Wang whose telephone number is (571)272-3992. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.
7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business
Center (EBC) at 866-217-9197 (toll-free)..

Liang-che Alex Wang *lw*
January 31, 2005

Hosain Alam
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PATENT EXAMINER